

**BEFORE THE  
FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C. 20554**

In the Matter of	)	
	)	WT Docket No. 00-32
	)	
The 4.9 GHz Band Transferred from	)	
Federal Government Use	)	
	)	

Dated: July 3, 2002

To: The Commission

**COMMENTS OF THE NEW YORK CITY TRANSIT AUTHORITY  
IN CONNECTION WITH THE SECOND REPORT AND ORDER  
AND FURTHER NOTICE OF PROPOSED RULE MAKING**

The New York City Transit Authority (NYCT) hereby submits the following comments in reference to the Second Report and Order and Further Notice of Proposed Rule Making (NPRM) in this proceeding authorizing 50 megahertz of spectrum in the 4.9 GHz band for use in support of public safety. The Federal Communications Commission (the Commission) requested comments on a variety of topics throughout the NPRM. After providing background information concerning the public safety activities of NYCT, we will address our comments by referencing specific paragraphs in the NPRM.

**I. BACKGROUND/INTRODUCTION**

**A. Interest of NYCT in this Proceeding**

NYCT is a public authority created by the State of New York and is the nation's largest provider of mass transit. In the City of New York, through its vast bus and subway system, NYCT serves nearly seven million people each working day. Its services are dispersed throughout the five boroughs of the City of New York, and its operations are on a 24-hour, seven day per week, 365 day per year basis. The presence, reliability, safety and security of those transportation services are essential to the functioning of both the City and the greater metropolitan region.

NYCT is the largest affiliated agency of the Metropolitan Transportation Authority which, through its various affiliates and subsidiaries, provides mass transportation services via bus, subway, and commuter rail operations throughout the greater New York City metropolitan region. One of its affiliates operates bridges and tunnels in New York City. During the proceedings of the Public Safety Wireless

Advisory Committee (PSWAC) in 1996, NYCT submitted a position statement<sup>1</sup> which describes in more detail the nature and extent of public safety services provided by large, publicly-owned, governmental providers of mass transportation services, which have entrusted in their care the lives and safety of millions of people each working day. The position statement delineated NYCT's communications needs and its dependency on effective, reliable, wireless communications to perform its essential governmental functions. In addition, it set forth various circumstances where NYCT has direct and immediate impact on public safety, including incidents directly affecting the subway system itself (*e.g.*, an emergency condition such as a fire, bomb threat or biohazard threat requiring mass evacuations and close coordination with other emergency responders), special events (*e.g.*, Presidential or foreign dignitary visits, or multi-national events scheduled at or near the United Nations) where radio communications must be used effectively to re-route buses around the events so that the public can be safely moved away from an area of intense concentration and congestion; and mutual aid scenarios where NYCT resources (human, equipment and otherwise) are utilized (i) to move the public away from the source of danger, (ii) to transport rescue personnel to the emergency site and (iii) to mobilize and coordinate NYCT rescue and technical personnel to assist other first responders in performing rescue work. All of these critical, public

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<sup>1</sup> The "New York City Transit Authority Position Statement Concerning Matters Before PSWAC" was submitted to the PSWAC Steering Committee and Sub-Committee chairs. Copies were made available to the public at the PSWAC Steering Committee meeting of June 25, 1996, held in Washington, D.C. A copy of the comments can also be found on the Commission's website using the Electronic Comment Filing System (WT Docket No. 96-86), The Development of Operational, Technical, and Spectrum Requirements for Meeting Federal, State, and Local Public Safety Agency Communication Requirements through the Year 2010.

safety functions were performed by NYCT in connection with the September 11, 2001 tragedy.

B. NYCT's Public Safety Duties

As the Commission noted (paras. 31-34, n. 94), many governmental functions fall within the broad definition of public safety. Even before the recent terrorist activities directed at national symbols emphasized the degree to which governmental mass transit providers were potential targets of terrorist threats,<sup>2</sup> NYCT believes that it was clear that urban mass transit providers in large metropolitan areas were directly and immediately impacting on the public safety each working day. NYCT's vast transportation system consists of nearly 500 subway stations, more than 700 miles of track, including tracks in under river tunnels, and approximately 6,000 subway cars and 4,500 buses. One "rush hour" subway train may carry between 1,000-2,000 people. Short "headways" between subway trains mean that any serious disruption in the smooth functioning of the transportation network can immediately impact thousands of lives.

Indeed, if one were to take a snapshot of a typical workday morning, say at 8:30 a.m., the subway system would be transporting about 500,000 people, of whom 300,000 would be in tunnels between stations. Thirty-thousand riders would be in under-river tunnels. Any emergency requires effective coordination and communication to move passengers safely to stations for evacuation. In the event of a major emergency, quick, responsive action is needed to ensure that the condition not evolve into a more widespread tragedy. All of this is dependent upon reliable, effective communications

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<sup>2</sup> It is, of course, a matter of public record that the Tokyo subway system was subjected to a terrorist attack using Sarin gas, and that individuals were tried and convicted in New York City in connection with their plans to plant bombs in NYCT's subway system, a plan that was thwarted only hours before its intended implementation.

systems. Any event having long-term disruption to mass transit service could have significant, negative consequences on the functioning of the New York City metropolitan region since the availability and reliability of that service is vital to the economy of the region. It goes without saying that recent security warnings underscore the degree to which an urban mass transit provider must be vigilant in protecting its riders.

C. NYCT's Role on September 11, 2001 Illustrates Its Public Safety Duties

NYCT was in the midst of providing “rush hour” service on the morning of September 11, 2001 when the first of two planes attacked the World Trade Center (WTC). No passengers or crew were lost in the attack or its aftermath despite the fact that multiple subway lines were located below the WTC (the “1”&”9” lines, which suffered severe flooding and structural damage when the towers collapsed; and the “N” and “R” lines, which required shoring up before service could resume on those lines in late October 2001 by bypassing the station located adjacent to the WTC). Subway trains enroute to lower Manhattan at the time of the attack needed to be located, via radio voice communications, and directed safely to other routes, stations and subway facilities. Subway personnel were dispatched to the area to assist in moving trains to the nearest, safest subway station, which needed to be effectuated in some instances, by bypassing the signal system. Trains in under river tunnels between Brooklyn and Lower Manhattan had to be “reverse railed” to the Brooklyn stations, a complex maneuver that must be executed with extreme caution to avoid collision since there is no signal protection and the train is moving contrary to the normal flow of traffic. These complicated moves were entirely dependent on radio voice communications for coordination in directing the move.

A Subways Emergency Command Vehicle was also established near City Hall to coordinate the necessary cessation of subway service without inducing panic or leaving passengers stranded in tunnels, and then, to restore service incrementally throughout the day consistent with the needs of emergency personnel.

While trained NYCT professionals addressed the events of September 11, 2001 in a highly commendable manner, and no passenger or employee fatalities resulted, dependence on a voice radio communications system alone has considerable limitations. Identifying the location of trains is a slow and cumbersome process; movement of those trains after receiving radio clearance to do so is equally slow and can only be carried out with extreme caution. Radio and transmission interference or errors in giving locations or pertinent information could have deadly consequences. Those human factors -- the possibility of miscommunication, inability to receive multiple, incoming voice communications at the same time, requests to repeat vital information -- always slow down and can hamper rescue operations where precise information and precious minutes always count. There is a clear and striking need for communication based systems that can immediately locate NYCT subway trains (and the thousands of riders on them) to move them speedily and effectively away from areas of danger.

Also on September 11<sup>th</sup>, voice radio communications were essential to NYCT's bus division. Express bus service to Manhattan needed to be halted, although Manhattan bus depots were advised to send equipment and personnel to the area to evacuate people from the zone of danger. Four buses in the WTC area were either destroyed or significantly damaged, but again, customers and employees were safely evacuated. The bus radio communications system (an 800 MHz trunked system) was

vital in addressing the needs presented that day. Bus radios and hand held radios were required to handle voice radio communications among the five “Road Operations” groups (one for each borough in the City), the Bus Command Center, the Subways Emergency Command Vehicle and the Office of Emergency Management. For Road Operations, the radio voice communications allowed NYCT to direct buses throughout the City to respond to the emergency. Buses were sent to downtown Brooklyn to evacuate people fleeing Manhattan via the East River Crossings. Additional buses in Queens, the Bronx, and elsewhere responded, as needed, to transport passengers displaced from subways. Approximately 300 NYCT buses and operators were used on September 11<sup>th</sup> to transport NYPD, FDNY, EMS and other rescue workers. NYCT facilities were used to fuel and service NYPD, FDNY and National Guard vehicles.

NYCT's mutual aid role continued in the aftermath of the collapse of the Twin Towers. It responded by providing needed rescue equipment such as safety vests, boots, eye protection, hard hats, and welding materials. Within a few hours, NYCT provided a convoy of heavy construction equipment and people to operate them. NYCT structural engineers, ironworkers, welders, hydraulics personnel and others responded to the smoldering site and performed much of the dangerous work during the first few days. Hydraulics personnel pumped water not only from subway facilities but also from flooded adjacent facilities, such as Verizon. Structural engineers assessed the integrity of both subway and building facilities. Again, it would appear to be beyond question that effective communications are vital in deploying NYCT personnel and equipment, as needed, to address these situations.

NYCT, while not providing traditional police, fire, or EMS services, is a critical first responder to any emergency on the subway system itself and must respond to many emergencies outside the system both because of its expertise and because almost any critical incident in the City of New York impacts or has the potential of immediately impacting upon the City's transportation system serving millions of people.

D. Anticipated Wireless Communications Needs in Light of Recent Events

The Commission is well aware of the critical need for spectrum for public safety purposes, and it is equally aware of the factors that limit spectrum availability in congested metropolitan regions such as the New York City area and its environs. Radio voice communications will always be needed to address incidents, both large and moderate, in a dynamic environment such as NYCT's subway system. However, recent events highlight the need for new technologies to be continually evaluated and employed by NYCT to ensure that passenger safety is not compromised. Emerging and developing needs and technologies to address those needs will dictate future wireless communications for public safety providers. Incorporation of passenger safety and data transmission features on new equipment could well be critical in addressing public safety needs given the challenges facing governmental mass transit providers. The limitations on utilizing radio voice communication to locate thousands of buses and hundreds of trains on a complex and geographically far-flung system are obvious. Automatic tracking systems, passenger alarm systems, communications based train control, chemical or biohazard detection systems and wireless closed circuit imagery -- either from a subway train to the wayside or to monitor conditions in tunnels -- may all be included among the uses that public entities may employ in the near and not-too-distant future to increase the



safety and security of the vital infrastructure of our cities and communities as well as the personal safety of the public we serve. The ability to locate and move NYCT subway trains safely away from sources of danger, remotely, without the delay and difficulties encountered when relying on voice communications alone, would save precious time when dealing with an emergency. Using communication based train control, for example, would enable subway trains to move faster from an area of uncertainty (tunnels) to a safe evacuation point (a subway station). These systems would, by increasing system capacity and allowing accurate train location data, also enhance public safety by enabling faster responses in moving subway trains away from a larger zone of danger. On-board passenger security features such as wireless train-to-wayside communications embedded in new equipment would undoubtedly reduce panic in the event of a real or threatened emergency as well as increase the public confidence that their safety and security are foremost in the plans of mass transit providers. Finally, biohazard or chemical detection devices, as well as closed circuit imagery, may all be employed to safeguard the potential targets of terrorism in the future. New wireless systems needed to implement these or similar safety features will require new spectrum allocations in order to perform mission critical functions.

## **II. ELIGIBILITY (NPRM Paras. 31-38)**

In this portion of the NPRM, the Commission noted the different definitions of public safety providers and sought comments on determining eligibility standards for utilizing the 4.9 GHz band. NYCT would urge that the Commission adopt a sufficiently broad definition of “public safety provider” that would enable governmental entities to be eligible for this spectrum for uses consistent with the safety of

the public. As stated in paragraph 33 of the NPRM, there are critical governmental services that either involve actual or potential hazards or instances where governmental entities must interact with traditional public safety providers to accomplish their mission. NYCT would urge the Commission to avoid a narrow eligibility standard which might unduly restrict a given locality or community from addressing its own public safety needs. Governmental entities with mission critical needs should be deemed eligible to participate in this band upon a showing of the relationship between its needs, the safety of the public, and the role of the entity in ensuring the safety of the public. Surely an entity such as NYCT, which receives advisories concerning terrorism alerts, should be eligible to secure spectrum to minimize these threats or to otherwise secure the safety of the public entrusted to its care. It is, of course, not open to debate that the subway systems of large metropolitan areas such as New York City have been the subject of terrorist acts or threatened terrorist acts. Those entities ought not be prevented from responding to those threats by an unduly restrictive eligibility definition.

### **III. USES OF THE BAND (NPRM paras. 39-41)**

NYCT recognizes the Commission's concern that adequate spectrum be made available for incident management purposes and is seeking comments on means of allowing reuse at other locations. It may well be that different geographical areas and communities throughout the country will respond differently on the fixed versus mobile issue. NYCT would simply urge the Commission to adopt sufficiently flexible rules pertaining to the use of the spectrum such that different governmental entities with varying needs not be artificially constrained in meeting those needs by the standards to be set forth in this proceeding.

#### **IV. LICENSING MECHANISMS (NPRM 46-56)**

NYCT agrees with the tentative conclusions set forth in the NPRM suggesting that, to the extent this spectrum is allocated for mobile operation, licensing schemes allow for maximum flexibility in light of the need to accommodate multi-agency use, and believe that licensing to specific entities, as suggested in paragraph 47 is the best method of proceeding. With respect to coordination of licensing, NYCT would note that the regional planning committee mechanism (para. 53) has worked well in an area such as the New York metropolitan area which includes a tri-state region and multiple communities. Personnel from agencies that participate in these planning committees perform well in conducting interference analyses and other technical studies to facilitate licensing. It should be noted, however, that the state and local governments involved in these regional planning committees necessarily absorb the costs inherent in making personnel available to conduct such studies since there is no allocation of funds (from auctioned spectrum or otherwise) currently in place to support the technical work of these regional planning committees.

#### **V. CONCLUSION**

It is anticipated that the results of this NPRM will have long-term and far-reaching consequences for public safety. Defining the contours of public safety needs will undoubtedly be a process of evolution, particularly as further threats to our nation's security may develop and technological responses to those threats emerge. We would urge the Commission to maximize the degree to which governmental entities can use this

spectrum not only to respond to such threats, but also in performing their regular, vital functions to effect the public good and to further the public health and safety.

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Brooklyn, NY

Respectfully submitted,

NEW YORK CITY TRANSIT AUTHORITY

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